

NOTES ON SOME NEW ALOES FROM THE TRANS-
VAAL, WITH DESCRIPTIONS OF THREE NEW
SPECIES, AND ONE NEW VARIETY.

(With three plates.)

By

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Especially in the Genus *Aloe* does the Transvaal present a wealth of material for the botanical worker. Considerable further investigation is however necessary, particularly in such richly succulent regions as the Zoutpansberg, Pietersburg, Middelburg, Lydenburg and Pilgrims Rest districts, before the Transvaal can be regarded as satisfactorily worked out in so far as the Aloes are concerned.

It is the author's hope to publish later in this Journal, a check list with localities, of the Aloes of the Transvaal, but before this can be attempted with any degree of accuracy and completeness it is advisable that the descriptions should first be published of such new distinct species as are at present known to exist. It might surprise some to learn that no less than 40 valid published *Aloe* species occur in the Transvaal, to which must be added three new species at present in the press,¹ and the three new species now described in this paper.

Since it is inadvisable to allow temporary manuscript names to get into circulation, only brief reference will be made to the following further new species :—

1. *Aloe* sp. (in Section *Leptoaloe*), from near Louis Trichardt in the Zoutpansberg.
2. *Aloe* sp. (in Section *Leptoaloe*), at present known as "Thompson's *Aloe*" from the Wolkberg, Pietersburg District.
3. *Aloe* sp. (in Section *Saponariae*), collected by Dr. E. E. Galpin, F.L.S. and Mr. L. R. Vogts, near Lake Fundusi, Zoutpansberg.
4. *Aloe* sp. (in Section *Saponariae*), collected by the writer near Badplaats, Carolina District, East Transvaal.

It is hoped that these species will be figured during their approaching flowering season, and described for early publication. It can thus be stated that at least 49 distinct *Aloe* species occur in the Transvaal, of which 23 species appear to be peculiar to this province. The following new species are described in this paper for the first time.

¹ *Aloe mutans*, Reynolds; *Aloe integra* Reynolds; *Aloe pongolensis*, Reynolds, figured and described for publication in a forthcoming part of *Flowering Plants of South Africa*.

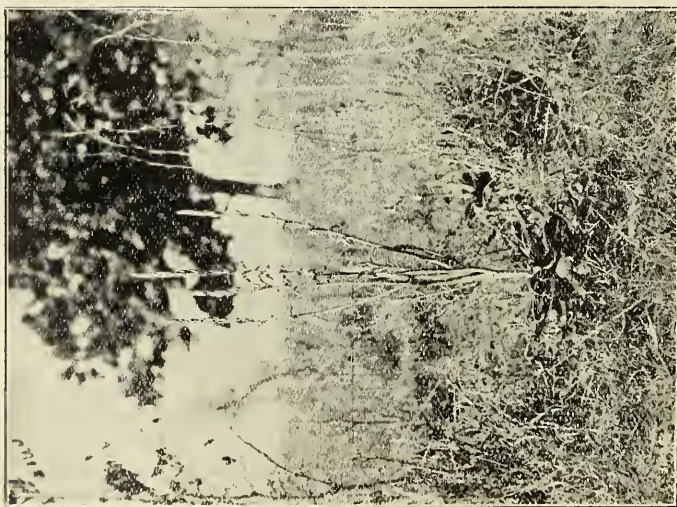


FIG. 1.

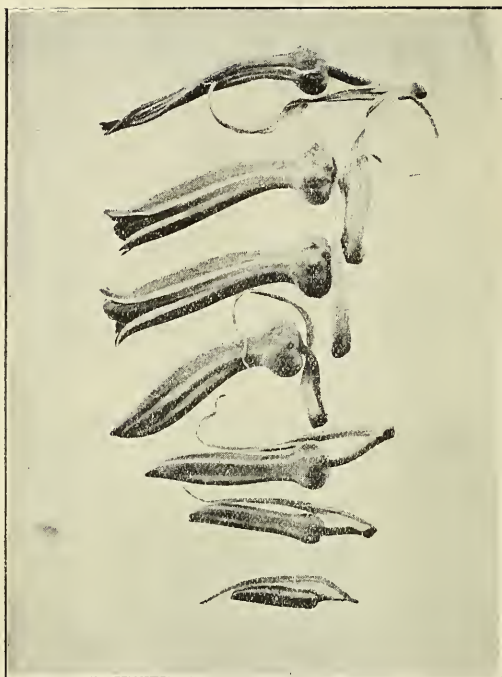


FIG. 2.

PLATE I.—*Aloe comosilimelata*, Reynolds.

FIG. 1. Plant in natural habitat, near Nelspruit, East Transvaal, flowering 17th July, 1935.

FIG. 2. Flowers natural size, from the bud to the post-pollination stage.

Aloe comosibracteata, Reynolds; species nova in sectione *Saponarium*, *A. barbertoniae* Pole Evans, et *A. longibracteatae*, Pole Evans, affinis. *Herba* succulenta, acaulis. *Folia* 15—20 dense rosulata, erecto-patentia, lanceolato-attenuata, usque ad 15 cm. longa, 6—8 cm. lata; supra planiuscula vel leviter caniculata, viridia, maculis oblongis irregulariter fasciatim picta; subtus convexa, immaculata vel obscure maculata; ad margines sinuato-dentata dentibus deltoideis corneis pungentibus, linea cornea junctis, 3—5 mm. longis, ca. 10 mm. distantibus; succus foliorum purpurascens. *Inflorescentia* 1—1.5 met. alta: scapus plerumque infra medium ramosus, rami 4—9. *Racemi* cylindracei, elongati, laxi, leviter acuminati, usque ad 60 cm. longi, superne densi. *Bracteae* deltoideo-acuminatae, carnosae, plurinervae, scariosae, pedicellos quadruplo longiores: *pedicelli* 10—15 mm. longi. *Perigonium* 39 mm. longum, basi inflatum (11 mm. diam.), supra ovarium valde constrictum (6 mm. diam.), decurvatum et faucem versus ampliatum; segmenta exteriora per 11 mm. libera, marginibus pallidioribus, apice paullum recurvula, interiora obtusiora. *Genitalia* vix vel brevissime exserta. *Ovarium* 9 mm. longum, 4 mm. diam.

Hab. Transvaal: Barberton Dist. near Nelspruit, fl. 17/7/35; Reynolds 1454 (*type*) in National Herbarium Pretoria and in Bolus Herbarium, Kirstenbosch; plant 446/9/35 in garden of the Botanical Laboratories, Pretoria. (PLATE I.)

This species was photographed and collected by the author, near Nelspruit, in the Barberton district, on 17th July, 1935, and also noticed northwards near Brondal Siding, westwards along the Schagen road, southwards to Barberton, and repeatedly in the neighbourhood of Barberton, especially near Clutha Siding and Noordkaap. It frequently grows in association with *A. barbertoniae* Pole Evans, with which species it often crosses, but is readily distinguished by the considerably longer, very fleshy bracts, the peculiar frosted-pink coloured flowers, and especially by the racemes terminating with a densely imbricate tuft of fleshy bracts, on which account the above name is proposed. The rosette of leaves is somewhat similar to that of *A. barbertoniae*, in which the buds are not obscured by their bracts, whereas in *A. comosibracteata* the buds are completely hidden, with the lowest flowers much more distantly spaced.

Another near ally is *A. longibracteata* Pole Evans, which it somewhat resembles in long bracts, and bracts tufted at apex of racemes,² but differs with slightly longer, narrower racemes, the lowest flowers shorter and more distantly spaced, the tube comparatively longer and the frosted-

² *Vide* Trans. Roy. Soc. S. Af., Vol. V., Pt. 1, June 1915, Plate V, fig. 2.

pink colour of the perianth. *A. longibracteata* has leaves greener, more triangular-lanceolate, and often as long as broad, much stouter marginal teeth, stouter peduncle, which usually has three to four branches only, while *A. comosibracteata* has longer, more attenuate leaves of a more brownish-green ground colour, a slenderer peduncle, and a taller more branched inflorescence. Solitary plants occur wild, while groups from suckers do not appear to occur.

Description.—*Herb* succulent, stemless or rarely up to 20 cm. *Leaves* 15—20 densely rosulate, up to 15 cm. long with an additional 5—10 cm. of dry twisted apex, 6—8 cm. broad, lanceolate-acuminate, erectly spreading, sometimes horizontally disposed and slightly recurved; upper surface rather flat low down, more concave near apex, paler green near base, more brownish nearer apex, with dull white oblong spots arranged in irregular broken, wavy transverse bands; lower surface convex, usually unspotted; the margins sinuate-dentate, with brown deltoid thorns 3—5 mm. long, about 10 mm. distant, the interspaces corneous, brown, rounded. *Inflorescence* 1—1.5 met. high, branched below the middle, with 4—9 branches, the lowest sometimes with branchlets, and subtended at base by rather fleshy bracts 10 cm. long, 3 cm. broad, armed with a few marginal teeth near apex; *peduncle* terete, flattened low down, covered with a greyish powdery substance. *Racemes* the terminal up to 60 cm. long, lateral ones shorter, cylindric-acuminate, very laxly flowered with lowest flowers up to 8 cm. distant, gradually denser upwards, the buds obscured by densely imbricate tufted bracts forming an acute apex. *Bracts* the lowest 3—4 times the length of the pedicels, deltoid-acuminate, rather fleshy, many nerved, usually curled and twisted in upper portion. *Pedicels* up to 15 mm., gradually shorter upwards. *Perianth* frosted-pink, 39 mm. long, swollen at base (11 mm. diam.) sharply constricted above the ovary (6 mm. diam.), thence decurved and enlarging towards the throat, slightly compressed laterally and with a slightly upturned mouth; outer segments free for 11 mm. from apex, with a 1—1.5 mm. broad white marginal border, and with sub-acute, slightly spreading apices; inner segments broader, with spreading more obtuse apices, and with broader white marginal border than the outer. *Filaments* flattened, the 3 inner narrower and lengthening in advance of the 3 outer. *Anthers and stigma* not, or very shortly exerted. *Ovary* 9 mm. long, 4 mm. diam. at base, slightly tapering into the style, finely 6-grooved. The leaf sap dries purplish-violet.

Aloe laxissima, Reynolds, species nova et distincta in sectione *Saponiarum*, floribus similibus eis *A. zebrinae* Bak., sed racemis laxissimis et succo foliorum purpurascens facile distinguitur. *Herba* succulenta,

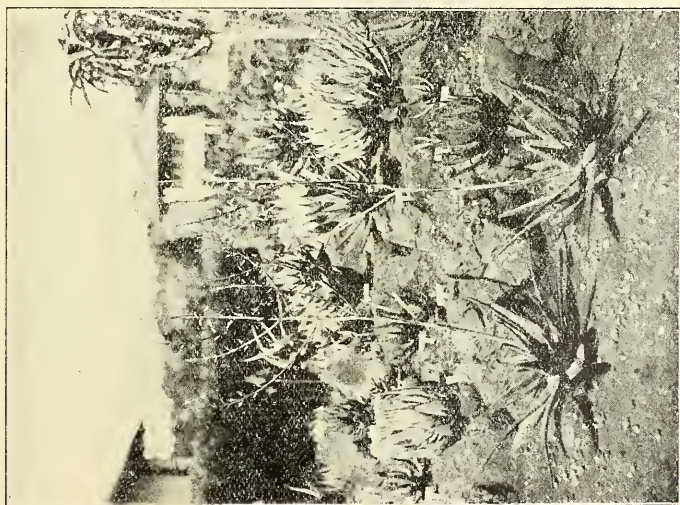


FIG. 1.

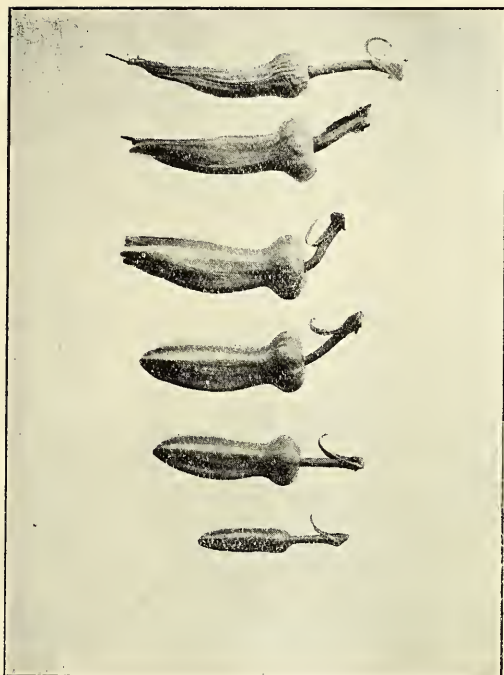


FIG. 2.

PLATE II. *Aloe laxissima*, Reynolds.

FIG. 1.—*Aloe laxissima*. Two plants collected by the author near N. bo, Middelburg District, flowering in his garden, 28th March, 1935.

FIG. 2. Flowers natural size, from the bud to the post-pollination stage.

acaulis vel breviter caulescens, sobolifera, mox caespitosa. *Folia* 15—20 dense rosulata erecto-patentia, e basi 5·5—7 cm. lata, sensim acuminata usque 30 cm. longa; supra planiuscula vel leviter caniculata, viridia, maculis oblongis irregulariter fasciatim picta; subtus convexa, maculata; ad margines sinuato-dentata, dentibus deltoideis corneis 5 mm. longis et 10—15 mm. distantibus. *Inflorescentia* 1—1·7 met. alta, scapus medio ramosus, rami 5—8, ramis arcuato-erectis; *racemi* cylindracei, elongati, laxissimi usque ad 25—50 cm. longi. *Bractee* deltoideo-acutae, scariosae, plurinerviae, pedicellos aequantes; *pedicelli* 10—12 mm. longi. *Perigonium* 30 mm. longum, basi manifeste inflatum (11 mm. diam.), supra ovarium valde constrictum, levissime decurvatum et faucem versus ampliatum, segmentis oblongis, 10 mm. longis, marginibus pallidioribus; *genitalia* vix vel brevissime exserta.

Hab.: Transvaal, District Middelburg, near Nebo, fl. March-April, 1935; Reynolds 767 (*type*) in National Herbarium, Pretoria, and Bolus Herbarium, Kirstenbosch; Plant 999/35 Nat. Bot. Gardens, and 448/9/35 in Garden of Botanical Laboratories, Pretoria. (PLATE II.)

The species is described from plants collected by the author near Nebo, about 85 miles north of Middelburg, East Transvaal, and which flowered in Johannesburg during March and April, 1935. It is plentiful near Nebo and so far as is at present known appears to be confined in its distribution to that neighbourhood. Its nearest ally seems to be *A. zebrina* Bak. from which it differs with smaller weaker marginal teeth, a more divaricately branched inflorescence and laxer racemes. In shape and size, the flowers of *A. laxissima* closely resemble those of *A. zebrina*,³ but the colour of the perianth is a peculiar frosted-pink; the leaf sap dries reddish-violet, while Baker's species is described with "*succus foliorum flavens*."

The Nebo species also seems near *A. Simii*, Pole Evans,⁴ but differs with shorter, broader perianth, distinctly reflexed bracts, and especially with leaves spotted in rows on both surfaces.⁵ Apart from the short, broad, frosted-pink flowers, a striking feature of the species is the very loosely-flowered racemes, which suggests the above specific epithet.

Description.—*Herb* succulent, acaulescent or shortly caulescent, soboliferous, soon forming dense groups. *Leaves* 15—20, densely rosulate 25—30 cm. long, with an additional 5 cm. of dried twisted apex, 5·5—7 cm. broad, linear-lanceolate, acuminate from the middle, erectly spreading; upper surface flatter near base, more concave near apex, dull

² Engler: Das Pflanzenreich. Liliac.-Asphodel.-Alcin. (1908), p. 207, figs. D-E.

³ *Vide* Trans. Roy. Soc. of S. Af., Vol. V, Pt. 6, 1917, Plate LJ, figs. 1-2.

⁵ *A. Simii* appears to be untraceable to-day, and is a species unknown to the Author in the living state.

green and ornamented with numerous dull whitish blotches, which are more or less confluent into a series of irregular transverse bands; lower surface convex with the blotches less defined than the upper surface and arranged in broader, slightly more obscure bands; the margins sinuate-dentate, armed with deltoid brown tipped deflexed teeth 5 mm. long, 10—15 mm. distant, the interspaces rounded. *Inflorescence* 1—1.75 met. high, divaricately branched from the middle upwards, usually with 5—8 arcuate-erect branches, the lowest sometimes with branchlets, a second inflorescence appearing after the first; *peduncle* rather slender, terete, flattened low down; *racemes* 25—50 cm. long, very loosely flowered with the lowest flowers up to 30 mm. apart, gradually slightly denser upwards, with the buds 20 mm. apart, the terminal raceme higher than the others, the lateral racemes shorter. *Bracts* as long as the pedicels, deltoid-acuminate, scarios, many nerved, spreading in the bud stage, sharply deflexed in the expanded flower stage; *pedicels* 10 mm. long, lengthening to 14 mm. in the fruit stage. *Perianth* frosted-pink, 30 mm. long, conspicuously sub-globosely inflated at base (11 mm. diam.), severely constricted above the ovary (7 mm.), decurved and enlarging towards the throat (10 mm.), slightly compressed laterally and narrowing to about 7 mm. at mouth; outer segments free for 10 mm., the free portion with white marginal border 1—1.5 mm. wide, with 5—7 dull pink nerves confluent at apex, the segment apices sub-acute, scarcely spreading; inner segments free, but cohering dorsally to the outer for two-thirds their length, with broader more obtuse apices, the white marginal border twice as broad as the outer, and with about 10 obscure crowded nerves confluent at apex. *Anthers* not, or very shortly exerted. *Stigma* at length exerted 1—2 mm.

Aloe burgersfortensis, Reynolds, species nova in sectione *Saponarium*, *A. transvaalensi* O. Kuntze affinis, sed floribus minoribus differt. *Herba* succulenta, acaulis, sobolifera, mox caespitosa. *Folia* 10—20, dense rosulata, erecto-patentia, carnosae, plerumque ad apices languescentes, lanceolata sensim acuminata, 20 cm. longa, 5—7 cm. lata; supra subcuniculata, viridia vel rubescentia, maculisque oblongis albidis irregulariter fasciatim seriatis picta; subtus convexa et pallide glaucoviridia, immaculata; ad margines sinuato-dentata dentibus deltoideis corneis pungentibus, linea cornea junctis, 3—5 mm. longis, 10—14 mm. distantibus. *Inflorescentia* 1—1.3 met. alta; scapus supra medio ramosus, rami 4—9, arcuato-erecti. *Racemi* cylindracei, laxiusculi, 20—35 cm. longi. *Bracteae* deltoideo-acuminatae, plurinerviae, scariosae, 12—18 mm. longae; *pedicelli* 10—15 mm. longi. *Perigonium* 28 mm. longum, basi globoso-inflatum et 7 mm. diam., supra ovarium constrictum et



FIG. 1.

FIG. 2.

FIG. 3.

PLATE III. *Aloe burgersfortensis*, Reynolds, spec. nov.

FIG. 1. Group of plants in natural habitat, near Burgersfort, flowering 21st July, 1935, typical.

FIG. 2. Flowers natural size, from the bud to the post-pollination stage.

FIG. 3. A stronger, less suckering form, photographed near Steelpoort, about 50 miles north-west of Lydenburg, flowering 21st July, 1935.

decurvatum, faucem versus ampliatus ; segmenta exteriora per 7 mm. libera, marginibus pallidioribus ; segmenta interiora latiora, obtusiora. *Genitalia* vix vel brevissime exserta.

Hab. Transvaal : Lydenburg District, at Buffelsvlei, fl. 21/7/35, Reynolds 1465 (*type*), Steelpoort, Reynolds 1471, Burgersfort, Reynolds 1474, all in National Herbarium Pretoria, and Bolus Herbarium Kirstenbosch ; plants 382 and 384/8/35 in Garden of Botanical Laboratories, Pretoria, and 1465/35 in National Botanic Gardens, Kirstenbosch. (PLATE III.)

This species occurs in considerable quantities in the bushveld of the Lydenburg District ; it is found in the Waterval Valley about 24 miles North-west of Lydenburg, at Buffelsvlei and the Waterval River causeway, Northwards to Burgersfort (48 miles from Lydenburg) and beyond. It is plentiful near Steelpoort and Eastwards along the Steelpoort River. A very dense colony of many thousands occurs on a rocky rise about one mile East of the Spekboom River near Burgersfort ; at this locality and elsewhere it is often found growing in association with *A. Marlothii*, Berg., *A. castanea*, Schönl., *A. Pienarii*, Pole Evans, *A. Wickensii*, Pole Evans, and *A. globuligemma*, Pole Evans, and with these species all flowering at the same time, the country thereabouts presents a most memorable blaze of colour during July and August. *A. burgersfortensis* has affinities with *A. transvaalensis*, O. Kuntze, and *A. Fosteri* Pillans ; from the former it differs in thinner leaves, not spotted below, shorter differently shaped perianth and flowering period, while *A. Fosteri* is a much larger plant with much longer attenuate leaves of a characteristic blueish-grey ground colour, with a more branched inflorescence and longer denser racemes. *A. transvaalensis* usually flowers from January to March, *A. Fosteri* in March—April, while *A. burgersfortensis* is in full bloom usually from the latter part of May to about the middle of August.

The species is variable in leaf, length shape and colour of flowers, and is described from observations made at the above localities in July 1934 and July 1935.

Description.—*Herb* succulent, stemless, freely suckering and soon forming dense groups, occasionally solitary. *Leaves* 10—20, densely rosulate, erectly-spreading, up to 30 cm. long with an additional 10 cm. of dried twisted apex, 5—7 cm. broad at base, gradually acuminate ; upper surface brownish-green, sub-caniculate, with oblong scattered white spots arranged more or less in a series of wavy interrupted transverse bands ; lower surface convex, paler glaucous-green, somewhat lineate, usually immaculate ; the margins sinuate-dentate with firm horny deltoid brown pungent teeth 3—5 mm. long and 10—14 mm.

distant, the interspaces rounded. *Inflorescence* mostly 1—1.3 met. high, usually compactly branched above the middle, with 4—9 slender arcuate-erect branches; the lowest sometimes with branchlets; *peduncle* terete, slender, flattened low down. *Racemes* cylindric-acuminate, 20—35 cm. long (sometimes up to 40 cm.), somewhat loosely flowered, the central terminal raceme usually longer than the others, the lateral racemes slightly shorter. *Bracts* deltoid-acuminate, thin, scarious, many nerved, slightly longer than their pedicels; *pedicels* 10—15 mm. long, lengthening up to 20 mm. in the fruit stage; *flowers* reddish, somewhat white striped in upper half, sometimes shading to orange at mouth. *Perianth* 28 mm. long, sub-globosely inflated at base (6 mm. diam.) constricted above the ovary (4 mm. diam.), thence decurved and enlarging towards the throat, slightly compressed laterally: outer segments connate into a tube for three-quarters their length, the free portion 7 mm. long and with a white 1 mm. wide marginal border, the apices subacute and slightly spreading: inner segments broader, and with more obtuse more spreading apices. *Filaments* flattened, the 3 inner narrower and lengthening in advance of the 3 outer. *Anthers* not, or very shortly (1 mm.) exerted, the 3 inner dehiscing in advance of the 3 outer. *Stigma* at length exerted 1 mm.

Aloe Marlothii Berg, var. **bicolor**, Reynolds, varietas nova, distincta et pulcherrima, ab typo dentibus rubris, alabastris rubris, floribus albis, racemis bicoloris differt.

Hab. Transvaal: Barberton District, fl. 14/7/35, 8 miles North-west of Barberton on the Carolina road, Reynolds 1440 (type), in Nat. Herb. Pretoria.

This very handsome variety occurs abundantly in warm valleys of the Barberton district, Eastern Transvaal low-veld. It is plentiful near Barberton, for some miles along the Carolina road, Northwards towards Nelspruit, North-eastwards at Clutha Siding, Noordkaap, and beyond. It flowers usually in June-July, and appears to be restricted in its distribution to the neighbourhood of Barberton. In general habit of growth it differs little from the typical form,⁶ but is readily distinguished by the red buds and greenish-white flowers forming very pleasing bi-coloured racemes. In the varietal form the spines are much redder than usual. It is a most attractive plant, very suitable for large rockeries, and one well worth cultivating.

Description.—Differs from the typical form with leaves less spiny, with red (not brown) spines and marginal teeth, with red buds and greenish-white flowers forming distinctly bicoloured racemes, otherwise in general habit of growth, development of stem, size of rosette, as the typical form.

⁶ Vide "*Aloe Marlothii*, some Forms and Hybrids" in Journal of the Botanical Society of S. Africa, Part XXI, 1935.